Supplementary Information

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NR CIV/SD/246 Rev A

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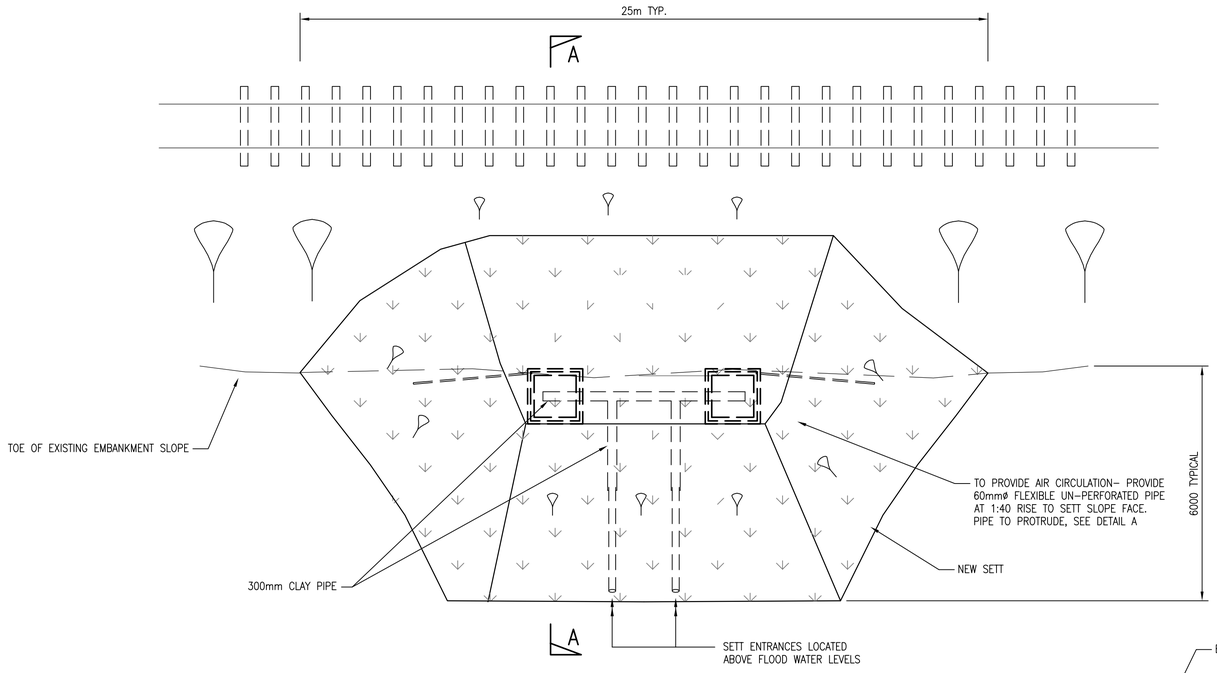


BADGER SETT DESIGN TYPICAL PLAN

1:100

OUTLINE CONSTRUCTION SEQUENCE

a) QUALIFIED ECOLOGIST TO UNDERTAKE AN ECOLOGICAL SURVEY OF THE SITE TO IDENTIFY THE PRESENCE OF ANY PROTECTED SPECIES.

b) ECOLOGICAL REPORT OF THE SITE TO BE ISSUED AND APPROVED PRIOR TO COMMENCEMENT OF ANY PHYSICAL WORKS.

c) COSS TO ESTABLISH A SAFE SYSTEM OF WORK IN ACCORDANCE WITH THE RULE BOOK AND THE CONTRACTOR'S METHOD STATEMENT.

d) LOCATE AND MARK OUT SERVICES PRESENT ON SITE AND ESTABLISH PROTECTION SYSTEMS FOR TRACKSIDE SERVICES.

e) SECURE PERIMETER FENCING TO PROTECT THE SITE AND THE RAILWAY BOUNDARY.

f) MOBILISE AND ESTABLISH ALL REQUIRED SAFETY/WELFARE FACILITIES, STORES, COMPOUND AND SITE OFFICES.

g) INSTALL MOVEMENT MONITORING TARGETS ON BOTH THE CESS AND SIX–FOOT RAIL. COMMENCE MONITORING PROGRAMME.

h) DISMANTLE THE RAILWAY BOUNDARY FENCE AS REQUIRED AND CONSTRUCT PLANT ACCESS TO THE EARTHWORK.

i) UNDERTAKE SITE DE–VEGETATION WORKS AS REQUIRED.

j) WHERE THE ARTIFICIAL SETT IS TO BE CONSTRUCTED ADJACENT TO AN EXISTING EARTHWORK, BENCH COHESIVE FILL INTO THE EXISTING SLOPE.

k) CONSTRUCT THE BADGER SETT, INCLUDING CHAMBERS, CONNECTION TUNNELS AND ENTRANCE TUNNELS. HALF FILL EACH BADGER SETT WITH HAY, BEFORE PLACING TOP SLABS.

l) COVER THE ARTIFICIAL SETT WITH CLASS 2 COHESIVE FILL TO A MINIMUM OF 1500MM COVER OVER THE CHAMBERS CONTINUING TO BENCH FILL INTO THE EXISTING EARTHWORK. COMPACT IN THIN LAYERS. DO NOT USE HEAVY COMPACTION PLANT.

m) REINSTATE ALL AREAS OUTSIDE THE RAILWAY BOUNDARY AS REQUIRED.

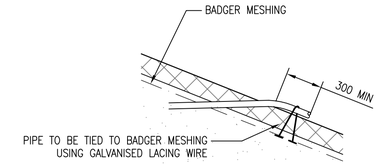
n) DEMOBILISE.

15. BADGER MESHING TO BE MACMAT–R OR SIMILAR APPROVED PRODUCT, WITH PVC COATED DOUBLE TWIST HEXAGONAL WOVEN 60MM MESH SIZE AND A 2.2mm WIRE THICKNESS. SEE SD/247

16. MESHING TO BE PINNED AT 1m C/C ALONG EDGES, AND BETWEEN 1m AND 2m C/C ELSEWHERE, USING 4mm DIAMETER, 300mm LONG GALVANISED STEEL PINS. LONG DIMENSION ON DOWNSLOPE SIDE. SEE SD/247

17. BADGER MESHING IS TO BE LAID WITH A MINIMUM OVERLAP OF 200m. THE MESHING SHALL BE PINNED AT 1m INTERVALS ALONG EDGES, AND BETWEEN 1m AND 2m C/C ELSEWHERE, ON ALTERNATE SIDES OF THE JOIN. ALL JOINTS BETWEEN ADJACENT SHEETS OF MACMAT–R SHALL BE FORMED WITH CONTINUOUS 2.2mm PVC COATED GALVANISED LACING WIRE. SEE SD/247

18. BADGER MESHING TO BE LAID USING 2000mm WIDE LENGTHS. EXTENT OF BADGER MESHING TO BE APPROVED IN SITE SPECIFIC FORM A AND FORM B SUBMISSIONS. SEE SD/247



DETAIL A

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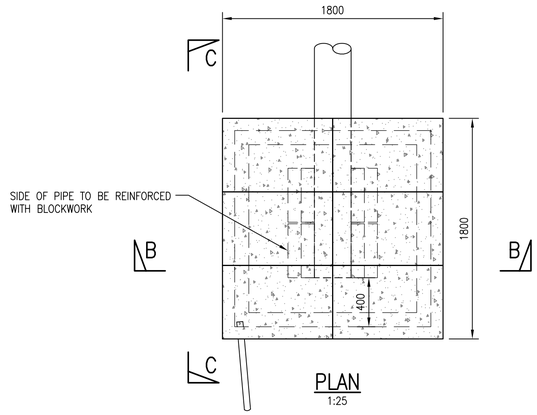

PLAN

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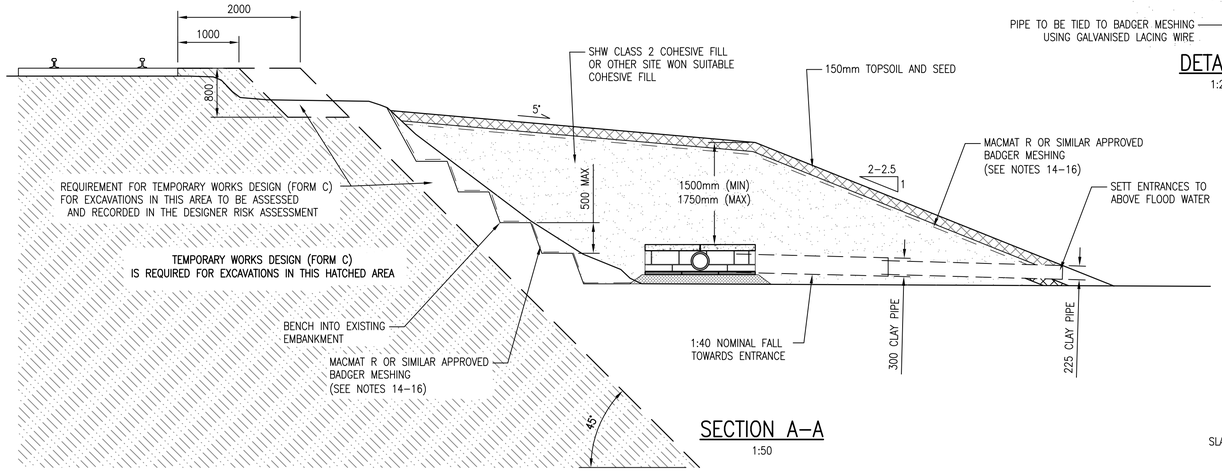
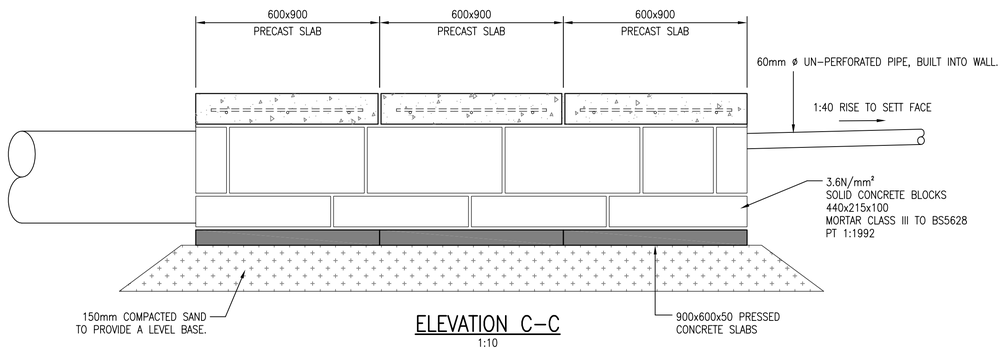


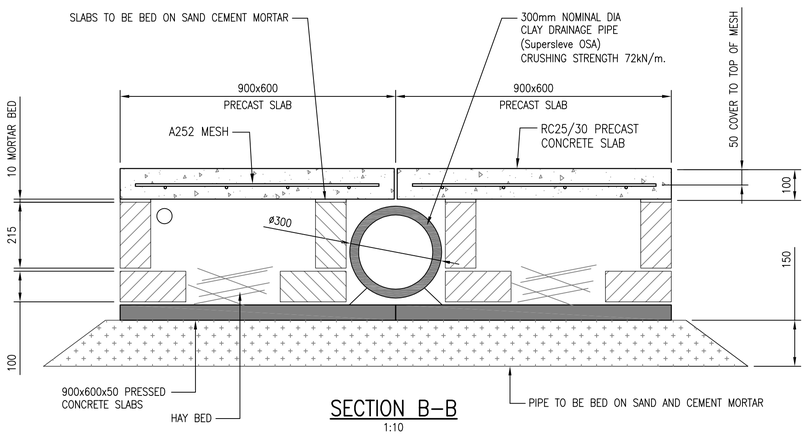
SECTION A–A

1:50



ELEVATION C–C

1:10



SECTION B–B

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DRAWING No. NR/CIV/SD/246

NOTES

1. THIS DRAWING FORMS A STANDARD DETAIL FOR ARTIFICIAL BADGER SETTS AND SHOULD BE READ IN CONJUNCTION WITH THE GENERAL REQUIREMENTS OF DRAWING SD/240.

2. REFERENCE SHOULD ALSO BE MADE TO THE SCHEME SPECIFIC DRAWINGS AND SPECIFICATIONS FOR DETAILS OF THE WORKS TO BE UNDERTAKEN.

3. THE PROPOSED ARTIFICIAL SETT SITE MUST BE AS CLOSE AS POSSIBLE TO THE EXISTING SETT WHILE BEING FAR ENOUGH AWAY TO REMAIN UNDISTURBED DURING THE EXCLUSION OF THE BADGERS FROM THE EXISTING SETT.

4. THE SETT MUST BE WITHIN THE SAME BADGER CLAN TERRITORY AS DETERMINED BY A QUALIFIED ECOLOGIST

5. THE SETT MUST HAVE A MINIMUM OF 1.5m OF CLASS 2 FILL COVER OVER THE CHAMBERS TO ENSURE SUFFICIENT WINTER TEMPERATURE INSULATION.

6. IF A SUITABLE EMBANKMENT SITE CANNOT BE FOUND, IT IS POSSIBLE TO ACHIEVE THE SAME RESULT BY CONSTRUCTING A MOUND OVER THE SETT.

7. THE SITE MUST BE DRY AND WELL DRAINED TO AVOID FLOODING, AND FREE FROM HUMAN DISTURBANCE.

8. AN AREA APPROXIMATELY 25m BY 6m IS REQUIRED AT THE TOE OF THE SLOPE.

9. THE SETT IS TO BE CONSTRUCTED SIX MONTHS IN ADVANCE OF A SETT EXCLUSION, TO PROVIDE SUFFICIENT TIME FOR THE BADGERS TO FIND AND USE THE ARTIFICIAL SITE.

10. THE SETT IS TO GENERALLY HAVE TWO OR THREE CHAMBERS, CONSTRUCTED FROM CONCRETE PAVING SLABS AND SOLID CONCRETE BLOCKS. 300mm DIAMETER PIPES SHALL BE USED FOR CONNECTING THE CHAMBERS, WITH THE ENTRANCE PIPES 225mm IN DIAMETER.

11. A TYPICAL LIST OF MATERIALS REQUIRED FOR, A TWO CHAMBER, ARTIFICIAL BADGER SETT CONSTRUCTION IS AS FOLLOWS (ALTHOUGH THIS MAY VARY DEPENDING ON THE REQUIREMENTS OF THE ECOLOGIST SUPERVISING THE WORKS):
12 No. 900x600x50 PRESSED PRECAST CONCRETE PAVING SLABS
12 No. 900x600x100 PRECAST R.C CONCRETE SLABS
68 No. 440x215x100 CONCRETE BLOCKS.
7 No. (300mm) DIAMETER CLAY PIPES, 2000 LONG.
4 No. 9" (225mm) DIAMETER CLAY PIPES, 1750 LONG.
2No. 225mm TO 300mm CLAY TAPER PIPE
2 No. 12" (300mm) DIAMETER 90° CURVED SQUARE JUNCTION.
2 No. BALES OF HAY.

12. CLAY PIPES TO BE JOINTED USING A POLYPROPYLENE COUPLERS

13. A LICENCE IS REQUIRED PRIOR TO CAUSING ANY IMPACT ON A BADGER POPULATION. REFER TO DWG SD/240

14. SITING, DIMENSIONING AND CONSTRUCTION OF A BADGER HABITAT SHOULD BE UNDERTAKEN IN CONSULTATION WITH A SUITABLY QUALIFIED ECOLOGIST.

Rev	Date	Description of revision	Design'd	C'kd
A	MAY 2011	FIRST ISSUE	CAM	GJPT

Network Rail

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Approved	P CLARK	Senior Prog. Eng. Manager Investment Projects Building & Civils	PC	MAY 2011
	Name	Position	Signature	Date

Master copy with original signatures held by Network Rail HQ CIVIL ENGINEERING STANDARD DESIGN

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STANDARD ECOLOGICAL DETAIL

ARTIFICIAL BADGER SETT CREATION

Scale	AS SHOWN @ A1	
Drawing Number	NR/CIV/SD/246	REV. A

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